

Marked-Up Version of Claims Showing Changes Made:

9. (Amended) A switch matrix, comprising:

a plurality of row conductors;

a plurality of column conductors, each of said plurality of row conductors and each of said plurality of column conductors are capable of being driven with a predetermined voltage level, and being capable of being read therefrom a voltage level; and

a plurality of switching elements including at least one momentary push button adapted to connect at least one of said plurality of row conductors to at least one of said plurality of column conductors;[.]

wherein a total number of switching elements of said plurality of switching elements exceeds a product of a total number of row conductors of said plurality of row conductors and a total number of column conductors of said plurality of column conductors.

14. (Amended) A switch matrix, comprising:

a plurality of row conductors;

a plurality of column conductors;

a plurality of [at least one] momentary switching elements adapted to momentarily connect at least one of said plurality of row conductors to at least one of said plurality of column conductors; and

a plurality of [at least one] persistent switching elements adapted to persistently connect at least one of said plurality of row conductors to at least one of said plurality of column conductors;

wherein a total of said plurality of momentary switching elements and said plurality of persistent switching elements exceed a number obtained by multiplying together a number of said plurality of row conductors and a number of said plurality of column conductors.

16. (Amended) A method of scanning a switch matrix, comprising:
persistently connecting at least one of a plurality of row conductors
to at least one of a plurality of column conductors;

driving one at a time each of [a] said plurality of row conductors
with a predetermined row voltage level;

monitoring each of [a] said plurality of column conductors while one
of said plurality of row conductors is being driven with said predetermined row
voltage level;

driving one at a time each of said plurality of column conductors
with a predetermined column voltage level; and

monitoring each of said plurality of row conductors while one of said
plurality of column conductors is being driven with said predetermined column
voltage level;

wherein a number of switches is increased by said persistent
connection exceeding a total number obtained by multiplying together a number
of said plurality of row conductors and a number of said plurality of column
conductors.



REMARKS

Claims 1, 4-6, 8-10 and 14-20 remain pending in the present application.

Allowed Claims 1, 4-6 and 8

The Applicants thank the Examiner for the indication that claims 1, 4-6 and 8 are **allowed**. The Applicants also thank the Examiner for the guidance that allowed claims "include both the input/output of the rows and columns and the increased number of switches allowed by the technique." (Office Action at 4)

Claims 9 and 10 in view of Fuldner

Claims 9 and 10 were rejected under 35 USC 102(b) as allegedly being anticipated by European Patent 0441129 to Fuldner et al. ("Fuldner"). The Applicant respectfully traverses the rejection.

Claims 9 and 10 are amended herein to include subject matter indicated by the Examiner in the last paragraph of page 4 of the Office Action as being patentable. Thus, it is believed that the Examiner would now agree that claims 9 and 10 recite patentable subject matter.

For at least all the above reasons, claims 9 and 10 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Claims 14 and 15 in view of Fuldner

Claims 14 and 15 were rejected under 35 USC 103(a) as allegedly being obvious over Fuldner. The Applicant respectfully traverses the rejection.

Claims 14 and 15 are amended herein to include subject matter indicated by the Examiner in the last paragraph of page 4 of the Office Action as being patentable. Thus, it is believed that the Examiner would now agree that claims 14 and 15 recite patentable subject matter.

For at least all the above reasons, claims 14 and 15 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Claims 16-20 in view of Valdenaire

Claims 16-20 were rejected under 35 USC 102(b) as allegedly being anticipated by U.S. Pat. No. 5,677,687 to Valdenaire ("Valdenaire"). The Applicant respectfully traverses the rejection.


Claims 16-20 are amended herein to include subject matter indicated by the Examiner in the last paragraph of page 4 of the Office Action as being patentable. Thus, it is believed that the Examiner would now agree that claims 16-20 recite patentable subject matter.

For at least all the above reasons, claims 16-20 are patentable over the prior art of record. It is therefore respectfully requested that the rejection be withdrawn.

Conclusion

All objections and rejections having been mooted by the cancellation of prior claims, it is respectfully submitted that the subject application is in condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,


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